1.11 R **WITH CONDITION INDICATOR**
1.11 W .Wear
1.11 L ..Electrical
1.11 E .Electrical
1.12 **TO RETARD ROLLING OF CASTER**
2 R **VEHICLE**
3 R .Train
3 H ..Fluid pressure vehicle
4 R .Wheel and ground
4 B ..Rotary brake member
5 .Ground-engaging
6 ..Sprag
7 ..Anchors
8 ..Sled
9 .Wagon
10 ..Four-wheel
11 ..Divided beam
12 ..Running gear support
13 ...Divided beam
14 ..Hayrack type
15 ..Retreating shoe
16 .Independent wheel
17 .Hub or disk
18 R ..Motor vehicle
18 A ...Disc brakes
19 .Cart
20 .Children’s carriages
21 .Truck
22 ..Two-wheel
23 ...Ground-engaging
24.11 .Velocipede (e.g., bicycle, etc.)
24.12 ..Including mechanism for opposed gripping of wheel rim or tire
24.13 ...Wheel rim configured to cooperate with components
24.14 ...Having means to increase braking force (e.g., self-energizing brake, etc.)
24.15 ....Variable leverage actuator
24.16 ....Plural brakes having common actuator
24.17 ...Actuation controlled by back-pedalling
24.18 ...With means to lock brake in actuated position
24.19 ...Having means to adjust spacing between brake component and wheel rim or tire
24.21 ...Having center-pull, cable-type actuator for mechanism
24.22 ...Specific actuator element structure
25 ..Roller
26 ..Hub or disk
27 ..Pivoted wheel
28 .Clasp
29 .Top shoes
30 .One-way
31 .Positive lock
32 .On ground
33 .Railway
34 ..Train
35 ..Wheel and rail
36 ...Chock
37 ....Roller shoe
38 ..Track
38.5 ...Plural abutments selectively engageable by vehicle-carried means, e.g., car spotter
39 ...Rotary shoe
40 ...Slot
41 ..Rail
42 ...Carrier type
43 ...Grippers
44 ....Automatic
45 ....Wheel clamps
46 ..Equalizing series
47 ..Connected trucks
48 ..Maximum traction type
49 ..Four wheel opposing
50 ...Open center
51 ...Divided beam
52 ..Four wheel spreading
53 ...Divided beam
54 ....Locomotive type
55 ....Mine car type
56 ..Clasp
57 ..Top shoes
58 ..Disk on axle
59 ...Side shoes
60 ..Positive lock
61 ..One-way
62 ..On track
63 ...Catchers
2 A .Braking torque regulators
2 D .Bowdin wire-operated
2 F .Wheelchair brakes
64 **WHEEL AND STRAND**
65.1 **STRAND**
65.2 .With attaching means
65.3 .Plural brakes
65.4 .Tortuous grip
65.5 ..Adjustable
67 **ROD**
WHEEL
68 .Frictional and positive

69 .Positive lock
70 R .Axially and transversely movable
70 B ..Self-energizing
71.1 .Axially movable brake element or housing therefor
71.2 ..With clutch between load and brake assemblage
71.3 ..Antipodal, relatively separable brake elements
71.4 ...Annular elements
71.5 ..Plural rotating elements (e.g., "multidisc")
71.6 ..With means for cooling brake
71.7 ..With means to adjust for wear of brake
71.8 ...Self-adjusting means
71.9 ....Including unidirectionally rotating screw
72.1 ..With means for actuating brake element
72.2 ...Self-force-increasing means
72.3 ...And means for retracting brake element
72.4 ...By fluid pressure piston
72.5 ....Piston for each of plural elements
72.6 ....And/or mechanical linkage
72.7 ...By inclined surface (e.g., wedge, cam or screw)
72.8 ....Screw or helical cam
72.9 ...By pivoted lever
73.1 ..Structure of brake element
73.2 ...Circumferential or circumferentially spaced
73.31 ..Retainer for brake element
73.32 ...Having means to facilitate changing brake element
73.33 ....By manipulation of brake actuator
73.34 .....Pivotable actuator
73.35 ...Having actuator and means to prevent vibration thereof
73.36 ....Including means to prevent vibration of brake element
73.37 ...Having means to prevent vibration of brake element
73.38 ....Spring
73.39 ...Including torque member supporting brake element
73.41 ...Including actuator pivotable in plane parallel to axis of rotation of wheel
73.42 ....And slidable in that plane
73.43 ...Including actuator slidable in plane parallel to axis of rotation of wheel
73.44 ....On axially extending pin
73.45 .....Plural pins
73.46 ...Including actuator fixed on torque member
73.47 ...Having closed loop type housing
74 .Transversely movable
75 ..Opposing
76 ...Rim grip
77 R ..Strap
77 W ...Wrap band type
78 ..Expanding
79 ...Multiple sets
323 ...Three shoes
324 ....Rotary cam operatively abutting shoe ends
325 ...Two shoes
326 ....Operators at both ends of each shoe
327 ....Anchors adjacent unoperated ends
328 .....Common anchor pivot or abutment
329 ......Rotary cam abutting shoe ends
330 .....Rotary cam abutting shoe ends
331 ....Adjacent ends operatively connected and not anchored to support
332 .....Rotary cam abutting shoe ends
333 .....One end anchored
334 ....Anchors at alternate ends
335 ...Radially guided shoe
336 ...Continuous split band
337 ....Anchored intermediate ends
338 .....Rotary cam operatively abutting band ends
339 ....Rotary cam operatively abutting band ends
340 ...Lateral guide for shoe
341 ...Anchor
342 ...Self-energizing
343 ...Wedge operator
79.51 ..Having wear take up or compensating structure
79.52 ...Temperature responsive
79.53 ...Feeler actuated

79.54 ...Actuated in conjunction with other braking element
79.55 ...Actuated by brake operating lever
79.56 ...Having separate adjustment actuator mechanism
79.57 ...Manually operated
79.58 ....Brake operator length adjusted
79.59 ....Mounted between shoe and a support member
79.61 .....Causes direct, simultaneous adjustment of plural shoes
79.62 ...Located on or in an operator
79.63 ...Mounted between shoe and a support member
79.64 ....Between plural supporting shoes
80 .Rotary shoes
82.1 .One-way brakes
82.2 ..Reversible
82.3 ..With disabler
82.34 ...Integral with engager
82.4 ..With hold out
82.5 ..Combined or plural diverse types
82.6 ..Biased flexible band
82.7 ..Pivoting or flexing detent (e.g., pawl)
82.74 ...Axially moving
82.77 ...On rotating member
82.8 ..Dragged wedging member
82.84 ...Rolling
82.9 ..Axially moving
83 .Continuous
84 .Fixed brake
85 .Intermittent
371 **PLASTIC DEFORMATION OR BREAKAGE OF RETARDER ELEMENT (E.G., IMPACT ABSORBER)**
372 .And subsequent reverse deformation
373 .Element twisted
374 .Element extruded through or around tool
375 .Element severed by cutting tool
376 .Frangible element
377 .Crushable element
378 **INERTIA OF DAMPING MASS DISSIPATES MOTION (E.G., VIBRATION DAMPER)**
379 .Resiliently supported damping mass
380 ..Supported by mechanical spring
266 **INTERNAL-RESISTANCE MOTION RETARDER**
267 .Using magnetic flux
267.1 .Electroviscous or electrorheological fluid
267.2 .Magnetic fluid or material (e.g., powder)
266.1 .Motion damped from condition (e.g., bump, speed change) detected outside of retarder
266.2 ..Condition actuates valve or regulator
266.3 ...Of the rotary type
266.4 ....Having plural openings
266.5 ...Of the pulsating or reciprocating type
266.6 ....Side mounted
266.7 .Piezoelectric
266.8 .With failure or malfunction detection
268 .Using yieldable or fluent solid or semisolid
269 .Using diverse fluids
270 .Operating against ambient atmosphere
271 .Combined with surface-friction brake
272 .Combined with mechanism retarded by brake
273 ..Restricting exhaust from engine
274 .With heat exchanger
275 .With fluid regulated in response to inertia of valve member
276 .With means compensating for change in temperature or viscosity
277 ..Thermostatic valve type
278 ...Manually adjustable
280 .Relative speed of thrust member or fluid flow
281 .Resistance alters relative to direction of thrust member (e.g., high resistance in one direction, low in the other)
282.1 ..Via valved orifice in thrust member
282.2 ...Valve actuated by electrical system
282.3 ....System initiated by a pressure change or feedback
282.4 ....System having distinct selections (e.g., hard, medium, soft)
282.5 ...Flexible flap-type valve (e.g., compression washers)

282.6 ....Having flow passage, cutout, aperture, slot, etc.
282.7 ...Ball-type valve
282.8 ...Spring-loaded valve
282.9 ....Adjusting the tension via (a) compressing or expanding or (b) different strength springs
283 .Piston having a restrictable opening (e.g., apertured plate) in a fixed volume chamber
283.1 ..Vortex flow passages
284 .Position of thrust member relative to chamber
285 ..Having a fluid flow passage adjusted manually (e.g., threaded plug, threaded rod, gearing)
286 ..Having aperture in chamber wall
287 ...Plural, successively encountered apertures
288 ..Having varying area of chamber passageway for thrust member
289 ..Having varying area of metering rod extending through orifice in thrust member
290 .Using a rotary-type fluid damper
291 ..Including clutch
292 ..Gear pump
293 ..Driving relatively moving element which causes flow of brake fluid
294 ...With means for regulating movement of element
295 ...Comprising rectilinearly reciprocating piston
296 ..Driving radial vanes which cause toroidal flow of brake fluid
297 .Having a thrust member with a variable volume chamber (e.g., coaxial or telescoping tubes, compensating reservoir)
298 ..Forming flexible wall enclosure for fluid
301 ..Causing air suction in chamber
302 ..Rectilinear reciprocation of piston caused by arcuately oscillating frame, shaft, arm, axle, etc.
303 ...Pistons reciprocating oppositely in nonaligned cylinders
304 ...Dual pistons
305 ...Piston reciprocating along axis of oscillation
306 ..Arcuately oscillating thrust member
307 ...Resilient or radially urged vane
308 ...Causing fluid flow through hub of thrust
309 ....With manually adjusted valve in hub
310 ...With means for manually adjusting fluid flow
312 ..Having piston rod extending through ends of chamber
313 ..With valve controlling fluid flow between chambers or compartments of the chamber
314 ...With reservoir for fluid
315 ....Annular reservoir
316 ..Fluid through or around piston within chamber
317 ...Via fixed or variable orifice in piston
318 ....And passage venting fluid external to chamber
319.1 ....Having an orifice adjustment for both jounce or bound (compression) and rebound
319.2 ....Orifice size varied using a hand or hand tool
320 ....Tortuous path orifice
322.13 .Valve structure or location
322.14 ..Foot valve
322.15 ..Piston valve detail (e.g., seat design, structural arrangement, metering element)
322.16 .Including seal or guide
322.17 ..Between piston rod and cylinder
322.18 ..Between piston and cylinder
322.19 .Cylinder structure
322.2 ..Having connection for side-mounted valve type
322.21 ..Having means for filling or recharging
322.22 .Thrust member or piston structure
322.12 .Including protective shield for retarder
321.11 .Including means connecting thrust member to load
299.1 .Controlled by an operator (e.g., vehicle driver) remote from retarder
300 .With means for locking parts together temporarily

322.5 .Using viscosity of fluid medium
381 **FRICTIONAL VIBRATION DAMPER OPERATORS**
105 .Multiple
106 R ..Vehicle
107 ...Railway
106 F ...Fluid and mechanical
106 A ...Inside wheel
106 P ...Plural systems
108 .Vehicle step
109 .Seat
110 .Automatic
..Vehicle
111 ...Trips
112 R ...Train
112 A ....Anti-sway control
113 ...Four-wheel
114 ...Hub
...Auxiliary mechanism on tongue
115 ....Rear wheel
116 .....Divided beam
117 ....Front wheel
118 .....Divided beam
...Movable tongue
119 ....Rising and falling
120 ....Rear wheel
121 .....Divided beam
122 ....Front wheel
123 .....Divided beam
...Railway
124 ....Train
125 .....Drawbar
126 ......Speed-responsive
127 ....Strain release
128 ...Sled
129 ...Rise and fall
130 ....Rotary
131 ...Turning
132 ...Horse pull
134 ..Differential movement
135 ..Momentum
136 ...Wedging shoe
137 ...Electric control
138 ....Vehicle
139 ...Gravity control
140 R ...Vehicle
141 ....Fluid-pressure control
142 ....Draft control
143 ....Wheel and ground
144 ....Railway
145 .....Winding
146 ......Axle
147 .....Train
148 ......Push rod
149 ......Drawbar
150 ....Speed-responsive
140 A ....Servo brake
151 R .Fluid pressure
152 ..Road vehicle
344 ...Velocipede
345 ...With multiple master cylinders
346 ...With friction drag response
347 ...With hydraulic quick-slack-take-up pulsator
348 ...With power quick-slack-take-up
349 ...With front rear brake apportioner
350 ...With steering gear control
351 ...With hydraulic automatic slack adjuster
352 ...With bleeding or filling device
353 ...With hydraulic lock
354 ...With independent wheel control
355 ...With nonmanual fluid-power source
356 ....Vacuum power
357 .....And manual
358 ....Liquid power
359 .....And manual
360 ....And manual
361 ...Wheel brake operating assembly
362 ....With transversely movable internal brake
363 .....Motor between shoe ends
364 ......Dual opposed piston motor
365 ....Radially acting motor
366 ....Arcuate or annular motor
367 .....Axially acting
368 ....Axially acting motor
369 ....With axially movable brake member
370 .....Spot type
153 R ..Rail vehicle
153 D ...Diaphragm
153 A ...Rim grip type
154 ..Exhaust of propelling motor
151 A ..Safety devices
155 .Fluid current
156 .Electric and mechanical
157 ..Electric motor on staff
158 .Electric
159 ..Dynamic
160 ...Additional current
161 ..Electromagnet
162 ...Rotary motor
163 ...Solenoid
164 ...Magnetic circuit

165 ....Rail-engaging
166 .Spring
167 ..Vehicle
168 ...Draft release
169 ....Wagon
170 ..Fluid-pressure release
171 ..Electric release
173 ...Vehicle
174 .Weight
175 ..Draft control
176 ..Vehicle body
177 ...Inclined
178 ...Longitudinally movable
179 ..Float
.Speed-responsive
180 ..Regulators
181 R ...Vehicle
181 A ....Acceleration responsive
181 C ....Comparative
181 T ....Torque-responsive
182 ...Fluid and electric control
184 ...Transversely expanding
185 ....Radial
186 ...Transversely contracting
187 ...Axially moving
188 ...Strand-engaging
189 ..Stops

POSITION ADJUSTERS

190 .Vehicle body movement
191 ..Radius rod
192 ..Turning
193 ...Railway
194 ...Pivoted wheel
195 .Load
196 R .Slack
197 ..Railway car
198 ...Automatic
199 ....Friction clutch
200 ....Ratchet bar
201 ....Shims
202 ....Screw
203 .....Fluid-operated
196 A ..Fluid
196 C ..Combined
196 F ..Torsional spring
196 M ..Manual
196 P ..Friction
196 B ..Ratchet
196 BA ...Rotatable
196 D ..Frictional rotation
196 V ..Screw, shim or cam
204 R .Equalizers
204 A ..For strap brakes
205 R .Supports
206 R ..Brake element
207 ...Beam
208 ....Road vehicle
209 ....Brackets
210 ....Safety
211 ....Locks
212 ....Parallel motion
213 .....Multiple-point support
214 ....Wear compensation
215 .....Brake shoes
206 A ...Anchor
205 A ..Antirattler
216 .Release mechanism
217 .Brake-thrust distributors

ELEMENTS

218 R .Brake wheels
218 XL ..Disk type
218 A ..Dust guard
219.1 .Beams or beam assemblies
219.6 ..With movable, reversible or adjustable heads
220.1 ...Pivoted head
220.6 ....Lockingly adjustable
221.1 .....Yieldably readjustable
222.1 ..With fixed head or thrust block
222.6 ...Integral head and beam
223.1 ...Trussed beam
223.6 ....Head or block held by tension element
224.1 .....Tension adjusted by terminal nut
225.6 ..Trussed beam
226.1 ...Integral tension and compression member
228.1 ...Tubular compression member
228.6 ...H, I, L, T, U, V, or X cross section compression member
229.1 ...With strut-type fulcrum
229.6 ....Reversible
231 ..With fulcrum
232 ...Reversible
233 ...Spaced
233.3 ..With guides and/or guards
233.7 ..H, I, L, T, U, V, or X cross section beam
234 .Shoe fasteners
235 ..Locomotive type
236 ..Heads
237 ..Combined wheel guards
238 ..Multiple shoes
239 ...Superposed
240 ...Linear arrangement
241 ....Frangible connection
242 ..Interlocking heads and shoes

243 ...Longitudinal key
244 ...Longitudinal insertion
245 ...Side insertion
246 ...Clamps
247 ..Shoe-back lugs
248 ...Cast in
249 ..Flexible shoes
250 R .Shoes
251 R ..Composite
252 ...Flanged
253 ....Recessed
254 ...Shells
255 ...Cast metal matrix
256 ....Nonmetallic inserts
257 ....Faces
258 ....Backs
259 ...Flexible
251 A ...Materials
251 M ...Metallic surfaces
260 ..Chills
261 ..Recessed
262 ..Rotary
250 A ..Transversely expandable
250 H ..One-piece
250 C ..Multiple web
250 D ..Web and flange connections
250 E ..Slotted shoes and vibration dampers
250 F ..Anchor and operator fittings
250 G ..Surfaces and fasteners
250 B ..Shoe construction
264 R .Cooling and lubricating
264 A ..Air-cooled, axially engaging
264 AA ...Auto wheel type
264 B ..Lubrication
264 D ..Liquid cool
264 E ..Wet friction surface and internal resistance
264 F ..Operating fluid cooling
264 CC ..Contained coolant
264 G ..Insulators
264 P ..With pump
264 W ..External wheel covers
265 .Locks
382 **MISCELLANEOUS**

DIGESTS

DIG 1 **PANIC BRAKING**
DIG 2 **HILL HOLDER**

FOREIGN ART COLLECTIONS

FOR **CLASS-RELATED FOREIGN DOCUMENTS**